CHANNEL ISLANDS POLLINATOR RESEARCH UPDATE AND NEWSLETTER 2

Professor Jane Memmott, University of Bristol, March 2025

INTRODUCTION

It's a wintery, rainy day in Bristol today, but two weekends ago I saw the first bumble bees of the year and the first brimstone butterfly too, and we are starting to think about the next field season in the Channel Islands. This, along with the fact that there are some project updates, makes it seem like a good time for another newsletter. Updates first:

Dr Anna Tatarko has just joined the group and will run the project for the next three years. Working closely with me, she'll organise the fieldwork, run the lab work and work closely with all of you involved with the project. She'll also analyse the data and prepare the data for publication. She has introduced herself below and I'm delighted to have her working on the project. We are in the process of appointing a new technician in shortly to replace Alex Heywood who left just before Christmas and are hoping to have someone in place by the end of April.

We've had the first sample of insects identified – sending off the bees, hoverflies and tachinid flies to a specialist taxonomist and we have a total of 73 species from a subset of a single Jersey July sample. We'll use this sample to work out what we choose get identified using taxonomists and what we send off for DNA bar coding (the latter is a molecular method of identifying species). Over the next couple of years we'll be working on identifying the backlog of specimens from the Malaise trapping. As soon as the first year's dataset is complete, we'll let people know what they caught in their traps, just to give you some idea of the types of insects we are collecting on your patch. At the end of the project, the complete species lists shared with the project participants and deposited in both the UK and Channel Islands records centres.

This coming field season, Anna and I will be out on Guernsey and Jersey for a rekke, most likely in May, to check through our field kit, making sure everything is ready for the next field season. Anna and the technician will return in mid-June, to deliver kit to each of the volunteers running a trap on all four islands, so you'll get chance to meet them both then. They will be based in Guernsey for the field season (with visits to Sark, Alderney and Jersey) to support the malaise trap and bat surveys, and carry out bumblebee DNA surveys. I'll be out a couple of times during the field season too.

What follows, is an introduction from Anna and an update from Stuart and Phil on last year's bat recording data. I've also included an update from Lauren Giroux, who while not officially part of this project, is another member of the Bristol team who was sampling pollinators on the islands last summer. Many of you met her, and she is now busy writing up her Masters thesis. Once this is done, we'll share her species list of flower visiting insects with the Channel Islands records centres and project partners. So, it's a bit of a bumper newsletter this time around – best read with a cup of coffee or a glass of wine!

And to end, I'm very much looking forward to seeing you this summer and looking forward to working with you for another summer of data collection on this fascinating project.

HELLO FROM ANNA

My name is Anna Tatarko, and I am excited to introduce myself as the new postdoc on the Channel Island Project. A few weeks ago, I moved from Nevada US to be a part of this exciting project and am keen to visit the islands and to get started.

My science career started in the midwestern US in Kansas. It was there that I gained some hands-on experience studying bees through prairie restoration efforts. While tromping around the tallgrass

prairies observing pollinators, I caught the bug. I knew I wanted to continue trying to understand the natural world and the complex relationships that contribute to its diversity and beauty.

The next step on my science journey was studying plant community changes under environmental disturbances for my master's and post-master's work in Nebraska and Colorado. But I knew all this work was missing one important thing: bees! I emerged from these projects determined to work with pollinators yet again and arrived in Nevada in the summer of 2018 to start my doctorate degree studying the impacts of pesticides on pollinator health. During my PhD research, I was thrilled to watch neurons in the brain of a fly respond to stimuli, explore the unique properties of the bee gut microbiome, and conduct fieldwork in Nevada's stunning Sierra Nevada and Toiyabe mountains.

I feel incredibly fortunate to have been invited to work on the Channel Island Pollinator Research Project and plan to bring my expertise on pesticides to this work. I am eager start this project and am looking forward to meeting the team dedicated to its continuation.

In my free time, I can usually be found outdoors camping & hiking. My favorite way to spend time is by exploring the natural world, so if you see me out and about, don't hesitate to say hello!

I look forward to meeting you all soon.

Best,

Anna Tatarko

Photos 1 & 2; Anna insect collecting in the Toiyabe Mountains of central Nevada, US and a Grey Long-eared bat (photograph by Henry Schofield) was one of the most widely recorded bat species during the project, with sound recordings from every island.

NEWS FROM STUART NEWSON AND PHIL ATKINSON, PROJECT PARTNERS AT BTO.

During 2024, 403 complete nights of recording effort was conducted over the field season for our project. Thanks to your help, an amazing 1,057,767 triggered 5 second recordings were collected which, following analyses and validation, were found to include 136,822 bat identifications, and 411 small terrestrial mammal identifications which were identified as 'by-catch' during the bat surveys. In addition, there were 627,110 bush-cricket and moth identifications. Following validation, we can

confirm the presence of at least 10 bat species, 5 small mammal species, 4 bush-cricket species and 2 audible moth species:

Species	Group	Jersey	Guernsey	Sark	Alderney
Brown long-eared bat	bat	0	2 (1)	0	3 (2)
Common pipistrelle echolocation	bat	34,969 (7)	25,654 (6)	24,415 (2)	27,914 (2)
Common pipistrelle feeding buzzes	bat	2,432 (7)	1,259 (6)	2,868 (2)	1,479 (2)
Common pipistrelle social calls	bat	2,083 (7)	3,982 (6)	2,174 (2)	2,008 (2)
Greater horseshoe bat echolocation	bat	0	1 (1)	0	0
Grey long-eared bat echolocation	bat	303 (6)	1,162 (6)	118 (2)	84 (2)
Kuhl's pipistrelle or Nathusius' pipistrelle echolocation	bat	562 (6)	2,452 (6)	29 (2)	17 (2)
Kuhl's pipistrelle feeding buzzes	bat	1 (1)	11 (3)	0	0
Kuhl's pipistrelle social calls	bat	7 (2)	61 (5)	0	0
Leisler's bat echolocation	bat	0	0	1 (1)	0
Natterer's bat echolocation	bat	247 (5)	332 (6)	11 (2)	9 (2)
Serotine echolocation	bat	98 (5)	0	0	0
Soprano pipistrelle echolocation	bat	12 (3)	4 (3)	9 (2)	15 (2)
Whiskered or Brandt's bat echolocation	bat	34 (2)	0	0	0
Black rat	small mammal	0	0	29 (1)	0
Brown rat	small mammal	5 (1)	238 (3)	0	0
Greater white-toothed shrew	small mammal	0	39 (4)	0	22 (2)
Lesser white-toothed shrew	small mammal	68 (4)	0	8 (2)	0
Wood mouse	small mammal	1 (1)	0	0	1 (1)
Dark bush-cricket	bush-cricket	(5)	(0)	(0)	(0)
Great green bush-cricket	bush-cricket	(6)	(6)	(2)	(2)
Grey bush-cricket	bush-cricket	(3)	(0)	(1)	(2)
Large cone-head	bush-cricket	(1)	(0)	(0)	(0)
Long-winged bush-cricket	bush-cricket	(2)	(3)	(2)	(1)
Speckled bush-cricket	bush-cricket	(4)	(3)	(1)	(1)
Bird cherry ermine	moth	(5)	(4)	(1)	(2)
Green silver-lines	moth	(0)	(1)	(1)	(0)

Table 1: List of species recorded on the bat detectors and the islands on which they were recorded.

NEWS FROM LAUREN GIROUX, MASTERS STUDENT SAMPLING ON GUERNSEY, JERSEY, ALDERNEY & HERME DURING SUMMER 2024.

This past summer was filled with memorable moments, whether it be watching gannets from Trois Vaux on Alderney, searching for guillemots with the Wild Islands team, or ending a long field day with a much-needed Cobo Chippy and a sunset. But just as memorable were the people who made the

experience truly special. From working alongside the Pollinator Project team to receiving help from incredible field assistants and getting the chance to help at the West Show, I was continually reminded of the power of collaboration in conservation. I'm especially grateful to Tara Cox, Lynda Higgins, and everyone on the Pollinator Project team—without you all, I'd probably *still* be looking for field sites!

Since I've returned to Bristol, I've been using the data I collected, alongside data sets from other islands to identify patterns influencing how plants and pollinators interact on islands. The size of an island is a major limiting factor for biodiversity. This is well-documented for plants, which often follow a species-area relationship, but much less is known about how these limitations affect plant-pollinator networks. My thesis aims to fill this gap by examining network structure at two magnitudes: (1) a detailed study of the Bailiwick of Guernsey, and (2) a broader analysis of 61 islands across the UK and Ireland, including the Channel Islands. This dual approach will provide both fine-scale insights and a big-picture, more global perspective on how island size influences ecological networks. I'll provide a further update on progress in the next newsletter.

Photos 3 & 4: An ermine moth and Lauren in action in the field.

FIELDWORK PLANS THIS COMING FIELD SEASON – INFORMATION FOR VOLUNTEERS

In short, this will be exactly the same as the previous years - we are very predictable in our habits! But we will provide more training on setting up the bat recorders and downloading the data as this caused some people some headaches last year. We'll be back in touch with all the volunteers running traps in late April with further information though. If you think you'll have problems helping with the project this summer, please let us know as soon as possible (Jane.Memmott@bristol.ac.uk). Likewise, ask if you have any other questions about the project.

AND FINALLY, AND AS ALWAYS, MANY THANKS TO THE FOLLOWING ORGANISATIONS FOR THEIR HELP AND SUPPORT: Guernsey Pollinator Project, Jersey Pollinator Project and affiliated organisations, Government of Jersey, States of Guernsey, Alderney Wildlife Trust & La Société Sercquaise.

If you are interested in regular updates on the project, both within and between field seasons, please email me using: Jane.Memmott@bristol.ac.uk and I'll add you to the mailing list. Also, feel free to pass this email onto anyone you think might be interested (or anyone I might have accidentally missed).


Jane Memmott


Anna Tatarko


Ian Vaughan


Phil Atkinson


Stuart Newson


Miranda Bane